

# PRICING STRATEGIES OF THE SUPERMARKET SECTOR

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## **Abstract**

The food retail industry is a very competitive market. Supermarkets use a combination of price, quality of products and service to lure consumers and increase their profit. This work project draws upon both empirical and theoretical literatures to understand the different pricing strategies that the supermarket sector uses. Everyday Low Price, Promotional, Zone Pricing and Loyalty Programs are the most common pricing strategies in this industry. By using data from the Portuguese supermarket leader – Pingo Doce - , this work project conclude that Pingo Doce uses a combination of Loyalty Program and Promotion to attain the desired outcomes.

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## 1. Introduction

Supermarkets compete across several dimensions and price is one of the most essential elements. Supermarkets are aware that any dollar that is not spent in one's store is spent in a competitor's store. Therefore, prices as well as quality of products and service are important elements to attract consumers' to one store.

Supermarkets use a combination of pricing strategies to lure in consumers and maximize their profits. A very common practice is to offer low prices on certain items on a regular basis. However, this strategy induces a fierce undercutting price behavior which, in turn keeps profits permanently low. As a result, many supermarkets opt for more complex set of pricing strategies that ensures profitability and still appeals to price conscientious consumers.

The goal of this work project is twofold. First, we study in detail the main pricing strategies currently in used in the supermarket industry. In order to shed some light on how these pricing strategies work and when are they put into practice, we review both the empirical and theoretical literature on the topic. In addition, we also discuss the main effects of these strategies on profits and consumer welfare using graphical analysis. Then, we examine how the pricing strategies identified in the literature have been used in the supermarket industry in Portugal. In particular, we focus on the case of Pingo Doce which is the supermarket leader in Portugal.

From the literature review, this work project concludes that there are four main pricing strategies: Everyday Low Prices (EDLP), Promotional (PROMO) which, comprises of loss-leaders and double couponing, Loyalty Programs (LP) and Zone Pricing (ZP). Even though all these strategies have the ultimate goal of increasing a supermarket's profit, the channels through which these strategies operate are not the same. For example, PROMO's success depends on the increase in the impulse goods sales. On the other hand, EDLP's success depends on the reduction of operational costs and on the increase in market share. Regarding Zone Pricing, the success of this strategy depends both on the categories of the goods and on the geographical area in which it

is applied. Our literature review also reveals that some strategies tend to prevail over others. For instance, there is empirical evidence that PROMO achieves better results than EDLP.

Finally, from our case study of Pingo Doce we conclude that this supermarket uses a combination of PROMO and Loyalty Programs when it comes to its pricing strategies. However, product quality and shopping experience are also important elements for this company. Pingo Doce focuses its strategy in offering the same store experience regardless of the geographic location, with fresh products having a prominent role in the store display. The firm also devotes a special attention to the advertising of each different pricing strategies with continuous investment in alternative channels of communication such as TV ads, radio advertisements and social media.

The rest of the work project is organized as follows. Section 2 reviews the empirical and theoretical literatures on supermarket pricing strategies. Section 3 uses graphical analysis to illustrate the effects of Everyday Low Prices, Promotional, Loyalty Programs and Zone Pricing on supermarkets' profits and consumer welfare. Section 4 describes the Portuguese food retail market and section 5 presents the Pingo Doce case. Finally, section 6 offers conclusions.

## **2. Pricing Strategies**

This section characterizes the pricing strategies that are usually applied by firms in the supermarket industry. It should be noted that most of the examples provided in this section are US based. The reason is because most of the empirical work published on this topic focuses on the US experience, though there a couple of studies (also reviewed in this thesis) that address this same question for some supermarkets in the United Kingdom.

### **2.1 Types of Pricing Strategies**

There are four pricing strategies that firms in the grocery retail industry usually apply: Promotional (also known as Hi-Lo strategy or PROMO), Everyday Low Prices (EDLP), Zone Pricing and Loyalty Programs (Mack, n.d.). Next we define each strategy, drawing upon the definitions put forward from the existing literature on the topic.

### *Promotional Pricing*

PROMO is defined as a temporary marketing incident where a small set of products is offered at a lower price than usual, with the underlying intention of influencing the purchasing actions of customers (Bell & Lattin, 1998; Ellickson & Misra, 2008; Walters & Rinne, 1986). Promotional strategies can be sub-divided into two categories: loss leader pricing and double couponing (Walters & Mackenzie, 1988).

*Loss leader pricing* consists in selling a high-demand product at an atypically low price to attract consumers. Under this pricing strategy, supermarkets can even incur in losses by selling products at or below marginal costs. The success of this strategy lies, nevertheless, on the purchase of impulsive goods – goods which purchase was not planned. This only occurs due to asymmetries in cross-price elasticities of goods (changes in the price of one good leads to a variation in purchasing behavior of another good). These asymmetries arise due to consumer's perception of savings – the money they save with the discounted good will be spend purchasing other goods (reward). However, not all products can be loss leaders. Loss leaders have to be high-demand products, with high storage costs and with a reservation price (the highest price a consumer is willing to pay) lower than unit round trip transportation costs (Hess & Gerstner, 1987; Lal & Matutes, 1991). The high-demand characteristic attracts consumers to the store, the high storage costs prevents the consumers from stockpiling and the reservation costs lower than the round trip transportation costs guarantees that in a round trip consumers purchase more than the loss leader. Any fresh product (fruit, vegetables, fresh dairy products, etc.) are perfect examples of loss leaders.

*Double couponing* is the name given to the retailer's decision to match the discount offered by the manufacturer, leading to a temporary double discount for consumers (Walters & Mackenzie, 1988). Under this strategy, each participant (manufacturer and retailer) pays for half of the discount offered. This means that both agents suffer from the same value reduction in their margins. However, as retailers and manufacturers have different markups for the same product, their outcomes with this strategy can be completely different. In fact, retailers can temporarily

incur in losses to fulfil this double discount. As a result, many supermarkets have canceled their policy to double the manufactures coupons as a strategy to eliminate “extreme couponing”- savvy shoppers who know how to work the system to get maximum discount possible. Other grocery retailers have opted to adopt tougher policies, limiting the quantity of coupons used per transaction and/or the number of coupons used per item sold (Tuttle, 2012, 2013). Kroger<sup>1</sup> and Stop & Shop<sup>2</sup> are examples of American retailers that apply a PROMO pricing strategy.

### *Everyday Low Pricing Strategy*

Another very common pricing strategy is EDLP, where firms offer everyday low prices across several items (Bell & Lattin, 1998; Ellickson & Misra, 2008). EDLP first appeared as a response to consumer’s inability to trust the PROMO format. The inconsistency in prices and the advertisements that always seemed to have a catch, lead many consumers to mistrust this pricing format. As a consequence some supermarkets, like Food Lion<sup>3</sup>, decided to follow the example of large discount departments and aimed to keep prices permanently low.

Similarly to what happens in loss leader pricing, EDLP supermarkets offer several products at a lower price inducing consumers to complement their purchase with better profit margins products. However the pure EDLP rarely exists, as EDLP’s stores engage frequently in promotions (Hoch, Dreze, & Purk, 1994). Bell and Lattin (1998) argue that EDLP has to be considered in a continuum approach, where the smaller, temporary promotions can be easily discarded as being irrelevant for the overall, long-run pricing strategy.

### *Zone Pricing*

Zone Pricing is described as third-degree price discrimination where a retailer offers different price-levels in different geographic areas. By using store-level information to recognize differences in the underlining consumer demand, retailers are able to capture more of the

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<sup>1</sup> Kroger is the largest American supermarket chain, second-largest retailer in the USA after Walmart and one of the fifths largest retailers world-wide (Deloitte, 2013).

<sup>2</sup> Stop&Shop is an American supermarket chain owned by the Dutch retailer, Koninklijke Ahold. The group ranks 26<sup>th</sup> on the top 250 retailers and holds 7<sup>th</sup> positions in the supermarket sub-segment (Deloitte, 2013).

<sup>3</sup> Food Lion is the largest subsidiary of the Belgium retail group – Delhaize. This grocery store operates in Mid Atlantic, South Atlantic, Georgia, Tennessee, Kentucky and West Virginia.



consumer surplus (Chintagunta, Dubé, & Singh, 2003). Indeed, Shankar and Bolton (2004) recognize that zone pricing is a complex issue involving the entire vertical chain. An example of this vertical integration is private labels. Private label are products that are commercialized under the retailers own name (Bergès-Sennou, Bontems, & Réquillart, 2004). This products are normally manufactured by the retailer however, in some cases, private labels can be outsourced. In this cases, a series of exclusivity agreements are made, guaranteeing that the retailers has control over the brand. In this sense, although these lines are not vertically integrated (the company owns the entire supply chain), they behave as if they were. This issue will be further discussed later on. A firm that successfully applies this strategy is Dominick's Finer Food<sup>4</sup>.

### *Loyalty Programs*

The last pricing strategy identified in the literature is Loyalty Programs. This strategy aims to retain the existing customer base and increase customers' loyalty through the use of personalized relationships, promoting the purchasing behavior. In general, these loyalty schemes are associated with reward programs, which imposes switching costs for consumers – the costs of losing the reward if they purchase in another store (Meyer-Waarden & Benavent, 2008). This rewards can be either discounts through the use of a membership card or prizes (gasoline, microwaves, etc.) through the cumulative purchase behavior of the consumer. Tesco<sup>5</sup>, the U.K. food retailer, is one of many firms already applying Loyalty Programs to its full use.

### *Other strategies*

So far we have only examined price strategies, which is the focus of this work project. However, there is more to shopping than the prices offered. Consumers also take into consideration the quality of products and the in-store experience when choosing where to shop (Matsa, 2011). Riesz (1978) argues that higher prices and the service level are used to induce the

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<sup>4</sup> Dominick's is subsidiary supermarket chain of Safeway Inc. The company was very successful in Chicago (second largest in food retailer in Chicago in 2003) however in April of the current year the company went out of business.

<sup>5</sup> Tesco is an English multinational grocery retailer. The company is present in several countries across Asia, Europe and North America and it is the second largest retailer in the world in revenues (Deloitte, 2013).

consumer's perception of higher product quality. This is a strategy of product differentiation where firms use prices to convey the differences in quality across competitors. In this scenario, the company does not apply a pricing strategy as attracting mechanism but as a way to convey an image of quality. Whole Foods Market<sup>6</sup>, an American retailer, uses this strategy to attract their premium clientele.

### *Relationship between Business Format and Pricing Strategy*

In the retail market, some business formats are associated with a specific pricing strategy. For example, when we look at wholesalers or big department stores (e.g. Wall-Mart or Makro), due to their more elastic demand, firms tend to choose a pricing strategy focused on low prices – usually EDLP (Ellickson & Misra, 2008). However, retailers that satisfy a niche market like organic food market or gourmet market, price takes a supporting role, as they are faced with an inelastic demand.

## **2.2 Advantages and Disadvantages of each Strategy**

Although the ultimate goal of the above strategies is to maximize profit, the way they achieve such a goal can differ. Table 1 summarizes the advantages (short-term accomplishments) and disadvantages of each pricing strategy.

**Table 1 – Advantages and disadvantages of each pricing strategy**

	Disadvantages	Advantages
<b>PROMO</b>	<ul style="list-style-type: none"> <li>· Costly</li> <li>· Demands more advertising costs than other strategies</li> <li>· Promotes “cherry picking”</li> <li>· Can cause bullwhip effect</li> </ul>	<ul style="list-style-type: none"> <li>· Increase traffic</li> <li>· Increase the purchase of impulse goods</li> </ul>
<b>EDLP</b>	<ul style="list-style-type: none"> <li>· Permanent lower margins</li> </ul>	<ul style="list-style-type: none"> <li>· Higher market-share</li> <li>· Lower operating costs</li> </ul>
<b>Zone Pricing</b>	<ul style="list-style-type: none"> <li>· Can damage future customers relationship</li> </ul>	<ul style="list-style-type: none"> <li>· Higher markups</li> </ul>
<b>Loyalty Programs</b>	<ul style="list-style-type: none"> <li>· Costly</li> <li>· No differentiation between consumers (same deals to all)</li> </ul>	<ul style="list-style-type: none"> <li>· Increase repeated purchase</li> <li>· Insight into consumers' behavior and habits</li> <li>· Reduces price competition</li> </ul>

<sup>6</sup> Whole Foods Market is an American supermarket chain present in the United States, Canada and United Kingdom. The supermarket specializes in natural and organic products.

### *Promotional Strategy*

Looking at PROMO strategy, the main disadvantage arises from the possibility of a firm incurring in losses by selling a product below its costs (e.g. loss leader pricing) (Walters & Mackenzie, 1988).

However, the goal of this strategy is to bring consumers to the store with low-priced products and once they are in the store, the transportation costs of going to another store represent a switching cost for consumers, giving retailers power over impulse products (Hess & Gerstner, 1987). Indeed, Bliss (1988) argues that consumers commit themselves to a price list, not to a product's price. Therefore, the main advantages of PROMO is to increase traffic in the store (Lal & Matutes, 1991) and increase the purchase of impulsive goods (Hess & Gerstner, 1987).

Yet, for this strategy to be successfully implemented it requires a high investment in advertisement, in order to attract customers (Lal & Matutes, 1991). Another major disadvantage of this pricing scheme is "cherry picking". As firms temporarily cut prices on certain goods, price sensitive shoppers will be induced to buy only the promoted items (Walters & Rinne, 1986). Indeed, some consumers take advantage of such promotions to stockpile for future consumption. This forward buying strategy will influence the supermarket's demand on future periods (Gangwar, Kumar, & Rao, n.d.), which can lead to a bullwhip effect.

The *bullwhip effect* is a phenomenon, where there are huge oscillations on inventory due to an imperfect flow of information. Although these oscillations are small in the beginning of the supply chain (segment of the supply chain closes to the demand side), as we move upstream this distortions will be amplified. As companies are unable to predict demand, they will overstock, incurring in unnecessary costs. This causes operational inefficiencies (Ge, Yang, Proudlove, & Spring, 2004). However, Gangwar, Kumar and Roa (n.d.) argue that the stockpiling effect can be considered an advantage. As price sensitive consumers stockpile, after every deep discount supermarkets are able to raise the price levels, since the clientele mix is now focused more on price insensitive consumers.

But consumers are not the only entities that can cause a *bullwhip effect* on the supply chain. In some cases, when supermarkets offer extremely deep discounts, the prices in the market will be set lower than the prices offered by wholesalers. Therefore, some small retailers will supply their needs in the supermarkets instead of in the wholesalers. Once again, this will cause an inaccurate prediction of the demand. To prevent such schemes, supermarkets limit the quantity consumers are able purchase of promoted goods. This strategy represents a purchasing barrier for both small retailers and consumers that want to stockpile.

#### *Everyday Low Pricing*

Regarding EDLP, the major downside is the constantly lower margins (Hoch et al., 1994; Lal & Roa, 1997). This means that for the same amount of goods sold, EDLP will accomplish lower levels of revenues. However, these lower margins can be offset with higher market-share and lower operating costs (Lal & Roa, 1997). This reduction of operating costs can arise from (i) reduced service and assortment, (ii) reduced inventory costs due to a more steady demand and (iii) lower in-store labor costs due to less frequent changeovers of the in-store display (Lal & Roa, 1997).

#### *Zone Pricing*

When looking at Zone Pricing, the main outcome is higher markups due to the retailer's ability to differentiate and target different consumer's demand on store-level bases. Nevertheless, in metropolitan areas that have large variations in the monetary dispersion, this zone segmentation can be quite small. This increases the probability of customers becoming aware of such price discrimination. As a result, the customer's trust in the chain could be damaged forever, compromising future purchases. This would offset any short-term gains earned by the retailer (Chintagunta et al., 2003).

#### *Loyalty Programs*

Regarding Loyalty Programs, the main disadvantage arises from the fact that these programs are costly due to the technological support needed. Furthermore, since no store charges

membership fee, people have cards for all grocers, thus removing the hidden benefit of price segmentation (the same discount is offered to all card holders) (Lal & Bell, 2003). However, loyalty programs are built in such a way that if consumers decide to deviate and purchase in another store/chain, they will lose the reward. Therefore, consumers have costs associated with switching between competitors. This will make consumers temporarily loyal to a certain store/chain and thus reducing the competition levels. In sum, the existence of switching costs for consumers, reduces price competition (Lal & Bell, 2003) and creates incentives for repeated purchasing behavior (Meyer-Waarden & Benavent, 2008).

Fearne *et al.* (2012) argue that Loyalty Programs not just impose switching costs for consumers but also provides valuable information regarding the consumers' behaviors. This information can be used to better predict consumer's buying habits and to optimize the retailers pricing strategies. Furthermore, by knowing the customers buying habits, supermarkets are able to offer coupons and promotional discounts in a more targeted manner, lowering the cost of such promotions while increasing their effectiveness.

## **2.3 What Makes a Retailer Choose a Certain Strategy?**

Several papers have tried to explain the reason behind retailers' choice of a particular pricing strategy. This section discusses the determinants of each strategy.

### **2.3.1. Combination of Pricing Strategies**

Retailers usually opt for a combination of pricing strategies that leverages the best profits for the firm. Although some of the strategies cannot occur simultaneously like EDLP and PROMO, others like Loyalty Programs and Zone Pricing can be applied as a complementary.

Looking at PROMO from the perspective of the consumers, the main point of this strategy lies on the periodic deep price discounts. The depth of these discounts is what leads consumers to purchase not only the promoted good but also impulse goods. On the other hand, in EDLP the core characteristic is the permanent lower prices across all goods. Thus, these two pricing strategies are mutually exclusive.

With Zone Pricing and Loyalty Programs the opposite happens. Both strategies behave as complementary to the already existing pricing policy. For example, a supermarket can apply a PROMO strategy with a loyalty card program while differentiating the price levels in distinct geographic zones.

### **2.3.2 Determinants of Each Strategy**

The determinants of each pricing strategy can be divided into three categories: market/consumer factors, retail factors and competition factors.

#### *Market/Consumer Factors*

Ellickson and Mirsa (2008) found that supermarkets select strategies custom-made to the local demographic of the market they serve. Therefore, the EDLP strategy can be preferred by the following consumer segments: lower income consumers with large families (Ellickson & Misra, 2008); large-basket shoppers (less price-elastic consumers) (Bell & Lattin, 1998); time constraint consumers (Lal & Roa, 1997); and less frequent shoppers (Bell & Lattin, 1998). On the other hand PROMO attracts: higher income consumers with smaller families (more present in metropolitan cities) (Ellickson & Misra, 2008); small-basket shoppers (Bell & Lattin, 1998); cherry pickers (Lal & Roa, 1997); and frequent shoppers (Bell & Lattin, 1998).

Bell, Ho and Tang (1998) approach the problem from a different angle. They found that large-basket shoppers prefer stores with higher fixed costs (e.g. travelling distance) and lower variable costs (costs associated with the shopping list). This is consistent with EDLP strategic positioning. Conversely, smaller-basket shoppers prefer lower fixed costs and higher variable costs (PROMO).

Lal's and Bell's (2003) research shed light on the consumer segments attracted by Loyalty Programs. They conclude that frequent shoppers prefer loyalty schemes since they can rapidly achieve the desired reward. However, the highest returns arises from consumers that have potential to modify their behavior – the cherry pickers.

### *Retail factors*

Ellickson and Mirsa (2008) argue that EDLP is more likely to be vertically integrated into distribution than PROMO. This suggests that EDLP requires substantial investments, careful inventory management and a larger selection of products in store in order to satisfy one-stop shoppers.

Shankar and Bolton (2004) conclude that Zone Pricing strategies are positively influenced by the vertical integration of the chain. Indeed, by increasing the level of vertically integrated lines (e.g. private labels) supermarkets are able to achieve higher margins (costs of producing are lower than the costs of buying from manufacturers) and increase the bargaining power with suppliers (the private labels compete with the suppliers' brands) (Bergès-Sennou et al., 2004). Thus, firms become more flexible being able to more accurately target consumers reservation prices – they can go as high or as low as they want.

### *Competition factors*

The competitors' behavior is the most dominant determinant of retailer pricing strategy (Shankar & Bolton, 2004). Indeed, firms are more likely to choose a given strategy if they expect the competitors to match their choice. Thus, supermarkets opt to copy the strategies implemented by the local competitors instead of differentiating themselves through the use of prices (Ellickson & Misra, 2008). The supermarket sector is a copycat industry.

Volpe (2011) argues that performance is improved from operating near competitors with similar pricing strategies. Hence, competition has a negative effect on all pricing strategies. This can be explained by the existence of economies of scope in this industry, which leaves any supermarket that decides to differentiate from the competitors worst-off due to the higher costs (Ellickson, Misra, & Nair, 2012).

Another determinate that can influences the retail pricing is the price match guarantee, policy by which the retailer offers the guarantee that it will match the lowest advertised price a consumer is able to find in the market. Hess and Gerstner (1991), argue there are two possible

factors that lead a firm to implement this policy: or it implements as a collusion practice to maintain monopoly prices in an oligopolistic market; or simply as price discriminating mechanism between ill-informed and well-informed customers. According to Hess's and Gerstner's results, the price matching policy is used as a mechanisms to relieve the pressure of the typical oligopolistic price competitive market.

## **2.4 But in the End which Strategy Prevails?**

Ellickson, Misra and Nair (2012)claim that there are undeniable evidences that PROMO strategies leads to higher revenues than EDLP, independent of the size of the chain, the size of the market or the competitive conditions present in the market. Indeed, EDLP successful implementation is only related to the existence of economies of scale and scope and the capacity of the firms to convey to consumers the image of low-prices (Hoch et al., 1994). If these conditions are not met EDLP leads to huge losses. Conversely, Lal and Roa (1997) argue that profits are higher for EDLP stores than PROMO stores. Although this pricing strategy may result in lower margins, it will be offset by higher market shares.

According to Chintagunta, Dubé and Singh (2003), the success of Zone Pricing is related with the product category. When tested in laundry detergents the results were conservative, not changing dramatically profits. However, in the refrigerated juice segment the profit implications were fairly large.

Regarding Loyalty Programs, Waarden and Banavent (2008) conclude that loyalty cards only create short-term changes in customers' behavior, thus not leading to any alteration on profits. The main outcome of this strategy is the improved insight to consumers' behavior.

Table 2 summarizes the conditions for the success of each pricing strategy discussed above.



**Table 2 - Conditions for success**

<b>When is the pricing strategy successful?</b>	
<b>PROMO &amp; EDLP</b>	PROMO achieves higher returns than EDLP
<b>Zone Pricing</b>	Depends on the categories in which it is applied
<b>Loyalty Programs</b>	Does not change the consumers' behavior

### **3. Graphical Analysis**

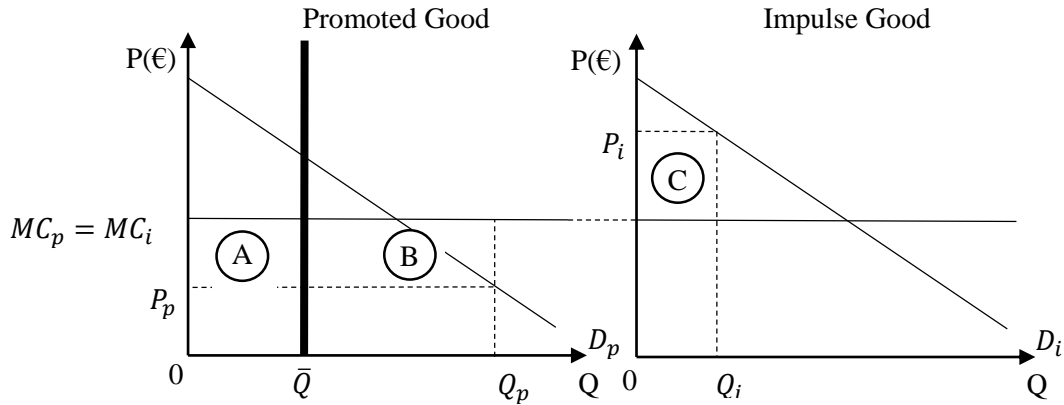
This section presents a graphical analysis of each of the above pricing strategies. We assume there is no perfect flow of information regarding the price levels, consumers are able to make rational decisions given the right set of information, the market is productively efficient and marginal costs are constant.

#### **3.1. PROMO**

For the sake of illustration, consider the following two products: chocolates (which can be considered an impulse good) and yogurts (a typical good with promotion). According to graph 1, by offering a price below marginal costs for yogurts, the supermarket losses the A+ B area. However, the purchase of impulse goods – such as chocolates – may increase once the consumer is in the store. Since these goods have higher margins than promoted goods, the supermarket is able to gain the C area.

Thus, only if area C outweighs the A+B area will supermarkets have a positive profit with PROMO. In addition, to avoid losses from a stockpiling behavior from households and small grocery retailers, supermarkets implement policies that limit the quantities consumers can purchase ( $\bar{Q}$ ), guaranteeing that losses (A area) never surpasses the gains (C area).

**Graph 1 – Promotional Strategy**



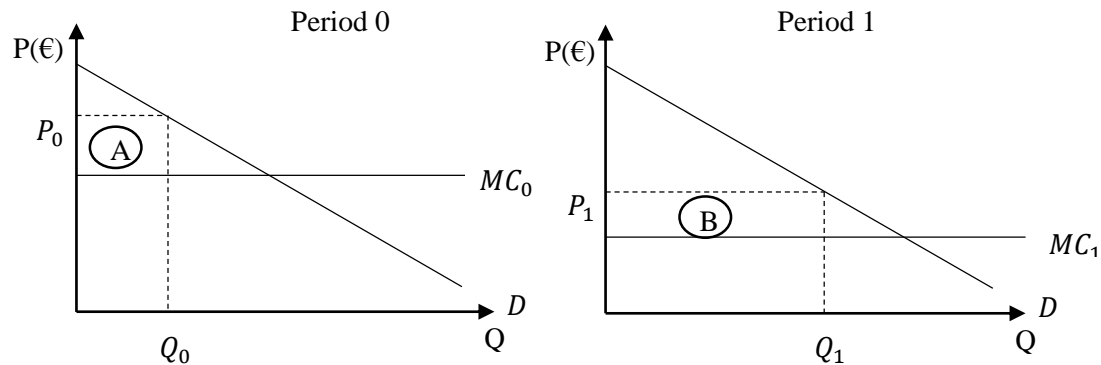
### 3.2. EDLP

By applying an EDLP strategy, a supermarket suffers from permanent lower profit margins but enjoys higher market share and lower operating costs. In graph 2 we analyze two different scenarios: period 0 – before the implementation of the EDLP strategy and period 1 – after the implementation of the EDLP.

In period 0, the firm sets prices at  $P_0$  knowing the marginal costs are  $MC_0$ . In this first scenario the profits are represented by the A area. Under EDLP (period 1), the firm sets a lower price level ( $P_1$ ). However, due to a reduction in the operating costs, the marginal costs also decrease ( $MC_1$ ). In this second scenario the supermarket profits are represented by B area.

By looking at both areas, we understand that the success of this strategy depends on the amount of the reduction in costs and the augmentation in the unit market share. If the reduction of  $MC$  is large enough and the increase in sales is substantial, the B area will outweigh the A area, making the supermarket better off in an EDLP strategy.

**Graph 2 – Everyday Low Price Strategy**



Regarding Zone Pricing, as firms use a third-degree price discrimination to maximize their markups there is the need to analyze three different scenarios: (i) markets where consumers have a less noticeable reaction to changes in price – less price sensitive (Market A); (ii) markets where a change in prices leads to huge variation in the quantity demanded – more price sensitive (Market B); (iii) markets where the companies are unable to target the different segments market – Combination of market A and B (Market C).

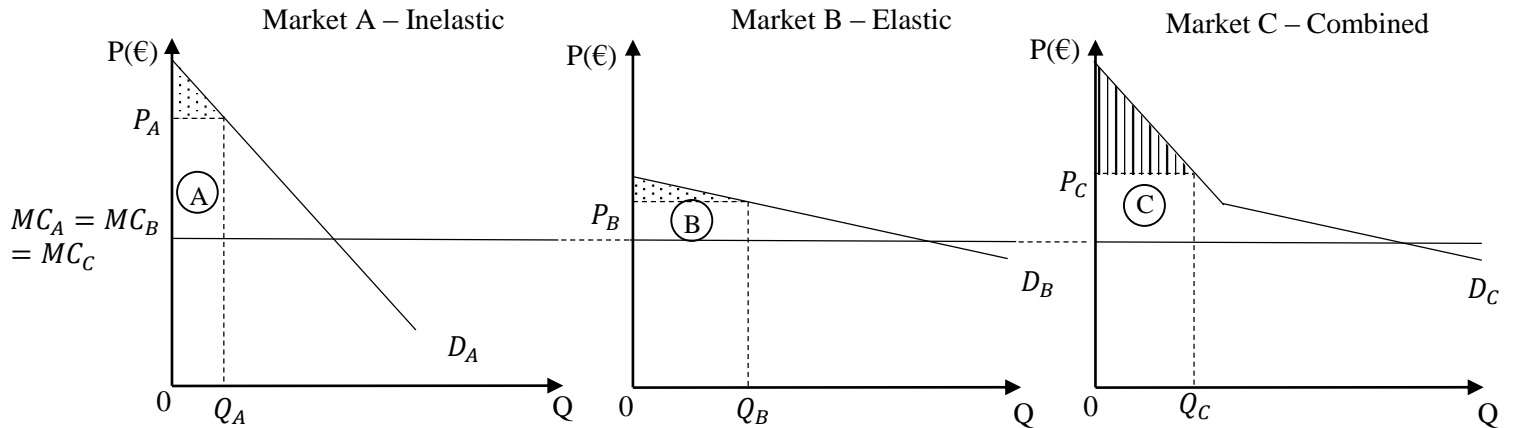
In the market A, consumers are less sensible to changes in prices and, therefore, the company is able to charge a higher price level ( $P_A$ ). On the other hand, in market B the company is bounded by the consumers' sensitivity towards prices and so charges a lower price level ( $P_B$ ). By doing so, the firm is able to gain the A and B areas as profit.

Therefore, by implementing this pricing strategy the supermarket is able to accomplish a higher level of profit than it would if it did not price discriminate. Indeed, by looking at graph 3, we can see that the combination of A and B outweighs the C area. However, this increase in profit is accomplished at the expense of a decrease on the consumer's surplus.

### 3.3. Zone Pricing.

If the firm applies a Zone Pricing strategy, the total consumer surplus is the dotted areas. On the other hand, in the absence of such price discriminating technique, the consumer surplus is the stripped area. In graph 3 the dotted areas underweight the stripped area.

**Graph 3 – Zone Pricing Strategy**



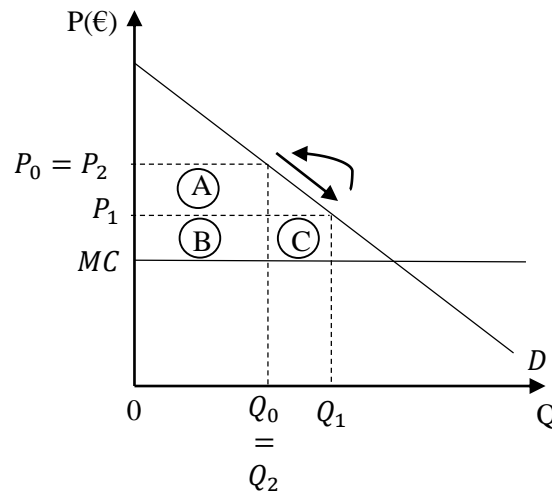
### 3.4 Loyalty Programs

Loyalty programs only lead to short-term changes in the consumption patterns. There are no long-run increments in the quantity demanded by consumers. Therefore, let's consider three different time periods: period 0, before the consumers joins the program; period 1, when the consumers starts to use the membership card; period 2, when the consumers changes back to their normal consumption patterns.

From graph 4, the movement from period 0 to period 1 leads to a decrease in the overall price level. As consumers enter the program and start to use the membership card, several price discounts will be offered as part of the reward system. This will lead to an increase of the quantity consumed. However, as time passes, the usage rate of the membership card will decrease, the price level will rise and the quantity demand will decrease. In period 2, consumers return, once again, to their normal consumption habits.

In sum, in the short-run supermarkets are able to gain the B and C area as profits but in the long-run their profits will return to the normal standers –the A and B areas.

**Graph 4 – Loyalty Programs**



#### 4. Analysis of the Portuguese Food Retail Industry

In this section, we identify which of the above pricing strategies apply to the Portuguese market, using Pingo Doce as a case-study.

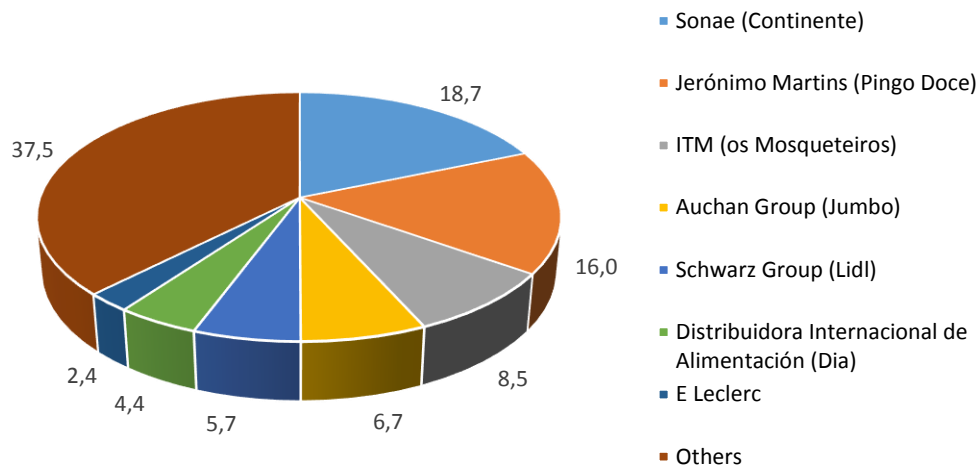
##### 4.1 Market Composition

Retailing is defined as any economic activity that connects, in a given supply chain, the manufacturers and the final consumers. If these transactions are groceries, we can narrow the market to grocery retail industry. These transactions can come from hypermarket – focuses solely on groceries – or from gasoline stations that sell groceries as complements to their main product.

The Portuguese retail industry comprises many players, although it is highly concentrated. According to graph 5, the market share of the top six grocery retailers' accounts for 60% of the industry, with the remaining players accounting for less than 2% (information from 2013). Sonae SGPS SA is the market leader with a 18,7% market-share, followed by Jerónimo Martins SGPS SA with 16%.

Nevertheless, there are other variables to be considered besides volume of sales: Pingo Doce is the largest employer in this market; Continente is the retailer with the biggest total store area and Minipreço (Dia) is leader with the highest number of stores in Portugal (about 550 stores).

**Graph 5 – Grocery Retail Industry: Market-Share**



Source: data used to construct this graph is from Passport - Euromonitor International

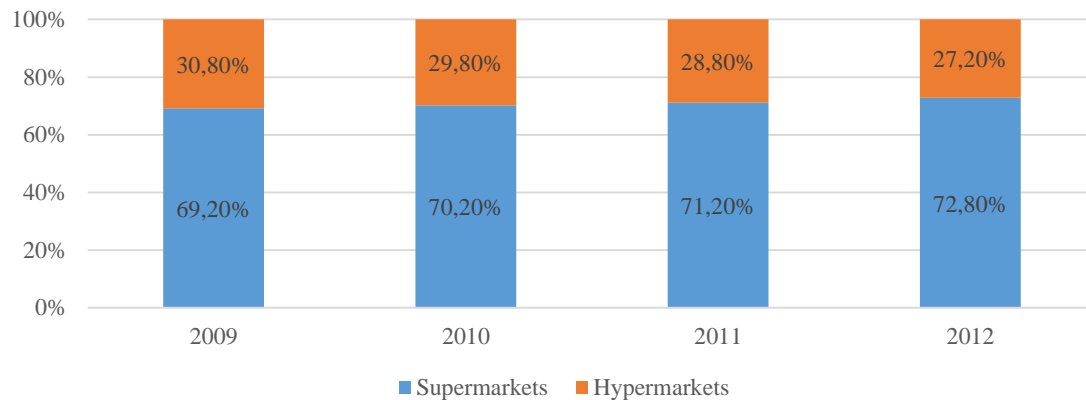
## 4.2 Market Characteristics

Over the past years, the Portuguese market has gone through several changes. Some of these changes may be attributed to a change on consumers' purchasing habits. From graph 6, between 2009 and 2012, consumers have decreased the volume of purchases in hypermarkets stores<sup>7</sup>. The opposite occurred in supermarket stores<sup>8</sup>. For the same period, supermarkets faced an increase in their total sales volume. This can be explained by changes in purchasing behavior of consumers. Before, the average consumer would buy in one purchase the quantity needed to satisfy the monthly household consumption. Nowadays, consumers tend to purchase the quantity needed to satisfy their weekly consumption. Indeed, the average number of transactions, between 2011 and 2012, increased by 5,1% and, at the same time, the average value of each transaction decreased from 16€ to 15€ which represents a 6,25% reduction. Taking into consideration these two sub-segments of the market, Pingo Doce represents the market-leader in the supermarket segment, were as Continente is the market-leader for the hypermarket segment.

<sup>7</sup> Store area superior of 2500 squared-meters

<sup>8</sup> Store area between 200 and 2500 squared-meters

**Graph 6 – Evolution of the Volume of Sales in the Grocery Retailers**



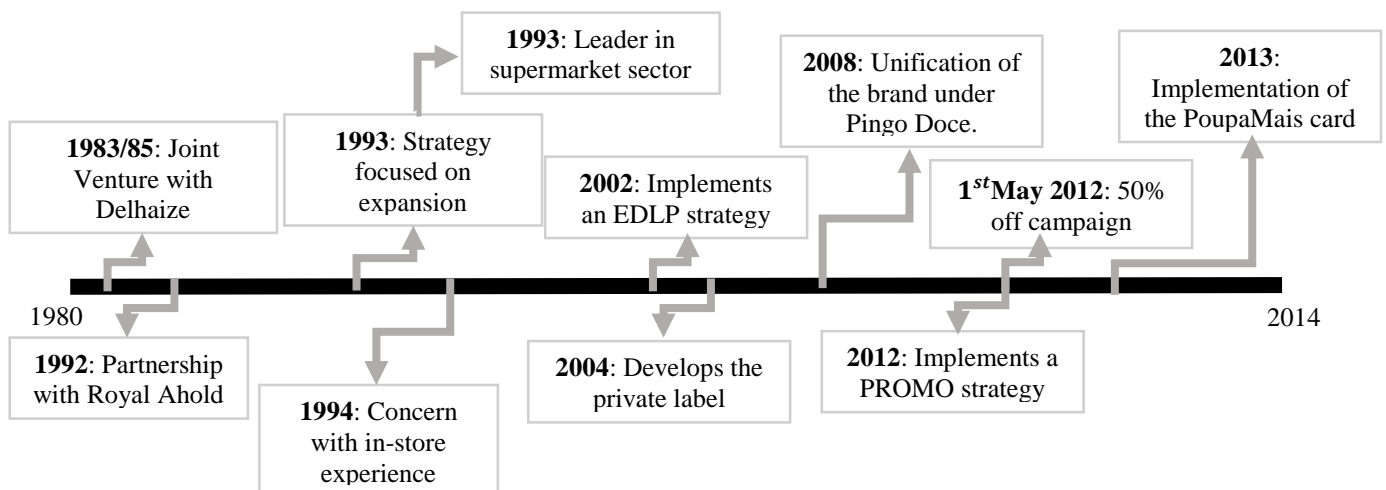
Source: data from INE - Estatísticas do Comércio<sup>9</sup>

## 5. Pingo Doce

### 5.1 Background

In order to understand the current position of the company, we discuss the main milestones in Pingo Doce's pricing strategies. Diagram 7 illustrates this analysis.

**Diagram 7 – Pingo Doce's Background**



Pingo Doce was founded in 1980 with the sole purpose of exploring the opportunities in the supermarket segment. In 1983/85 the company made a joint venture with the second biggest Belgian retailer – Delhaize “Le Lion”. However, by 1992, the group decided to purchase back the

<sup>9</sup> Due to the nature of the data used, any commercial enterprise with a size smaller than 2499 squared-meters was considered a supermarket and any commercial enterprise with an area larger than 2500 squared-meters was considered a hypermarket.

shares held by the Belgium retailer, and make a partnership with the Dutch enterprise Royal Ahold NV.

During the following years, Pingo Doce acquired several smaller chains of supermarkets as an expansion strategy. Modelo, Inô and Pão de Açúcar sold, respectively, 45, 53 and 15 stores to Pingo Doce. By 1993 the company was able to accomplish a leader position in the supermarket segment. In the next year, the firm felt the need to start improving their in store experience. Pingo Doce became focused in the in-store organization, easiness and quickness to locate products, giving a prominent placement to fresh goods.

In 2002, the firm implemented a strategy focused mainly on prices. This strategy was led by a structured decrease on prices of all products – EDLP. This new strategy was communicated through the use of the campaign “Pingo Doce baixou os preços”. In order to make this strategy work the company reduced the assortment of in-store products. By 2003, the company had already reduced 22% of the assortment of products in the portfolio.

In 2004, Pingo Doce developed their private label. These products would, in the following years, gain a prominent role in the portfolio of products carried by the retailer. By 2008, the company acquired the supermarket chain PLUS. In that same year, Jerónimo Martins decided to unify the brand. The Feira Nova hypermarket ceased to exist, being all stores converted into Pingo Doce.

To reinforce the strategy implemented in 2002, in 2009 the company launched the advertising campaign “No Pingo Doce, o preço é sempre baixo, na loja toda, o ano inteiro”.

Throughout 2012 the company suffered several changes. The most noticeable was the modification of their strategic path, moving from everyday low prices to a promotional strategy. This transformation was accompanied by a reformulation of Pingo Doce’s cost structured that focused in rationalizing costs. From a reduction in the in-store staff to a decrease in the assortment of goods, all costs were cut to the bare minimum.

To communicate such transformation several campaigns were launched, like the basket promotion, where a basket of goods was offered at a significant discount. Yet, the flagship of this



new pricing strategy was the 50% off campaign. On the 1<sup>st</sup> of May of 2012, the Portuguese retailer offered a 50% discount in all purchases with value above 100 €. This massive promotion was very polemic, leading to accusation of anticompetitive behavior mainly predatory pricing.

In 2013, the company implemented a loyalty program in partnership with British Petroleum – the card PoupaMais. With this card consumers are able to transform accumulative purchases in the Pingo Doce stores into BP's gasoline. In this same year, as a way to reinforce the strategy implemented in 2012, Pingo Doce reduced the portfolio of goods carried in 20%, increased the number of products in the check-out points and started to produce a weekly journal to advertise the promoted goods.

## **5.2 Data**

In order to study the pricing policy of Pingo Doce, we began by analyzing six different clusters of information: number of visitors; demographic characteristics of the consumer; promoted goods; vertical integration; loyalty towards the brand and price discrimination. All data came from either interviews members of the Group Jerónimo Martins or from Pingo Doce's economic annual reports.

### **5.1. Number of Visitors**

Pingo Doce's stores receive on average 600.000 to 630.000 visitors per day during the week – Monday to Friday. This number can increase up to 10% in the weekends (610.000 - 660.000). The stores with major traffic are located in the central area of Portugal with, on average, 330.000 – 340.000 visitors during the week and 340.000 – 350.000 during the weekend. The South of Portugal is the region with the lowest amount of visitors, having no significant difference between the daily traffic during the week and the daily traffic in the weekends (40.000 – 50.000 in both scenarios).

## **5.2. Demographic Characteristics of the Consumer**

Pingo Doce implemented their loyalty program this past year. Most of the information gathered regarding the demographic characteristics of the consumer is a result of such program. Due to its short span of existence, there are some limitations on the information collected.

On average, the typical consumer of Pingo Doce is a forty year old female, with 2,9 members in her household which spends on average 283€ per month on groceries (food and toiletry). Indeed, 77% of Pingo Doce clientele are females, 55% of Pingo Doce families have three or more members per household, 53% spend less than 250€ per month in groceries and 47% are between the ages of 18 and 44. Regarding the degree of education, 41% of Pingo Doce's clientele has at least finished high school. Concerning the purchasing frequency, 74% of the Pingo Doce's consumers purchase no less than once a week, in which 31% purchases at least every 2 to 3 days.

## **5.3. Promoted Goods**

According to Jerónimo Martins, the increase in sales of promoted goods varies according to several factors. There are products that are purchased with the sole purpose of being sold as promotional good, which makes it impossible to measure the increments in sales. In other cases, the success is dependent on the price elasticity of the demand and the capacity the good has to attract sales for itself. Imagine, for example, two brands of yogurts X and Y. If the brand X is on promotion and priced below Y, consumers may change their normal consumption habits and purchase brand X. Therefore, the sales volume of brand Y will be negatively affected by the promotion, making it difficult to calculate accurately the impact of such promotion.

On average, on a weekly promotion, the company has 5% to 10% of the total portfolio of goods on sale and it is able to increase the sales of promoted goods in 150% to 300%, depending upon the amount of "new" goods – goods that are being promoted for the first time. However, the losses in un-promoted goods can rise up to 10% or 20%.

In sum, the objective of Pingo Doce is to use the promoted goods as a way to achieve overall company growth, even if this means cannibalizing the sales of un-promoted products. In fact, in 2013, Pingo Doce grew 3,6% in like-for-like<sup>10</sup>.

#### **5.4. Vertical Integration**

The sale of private labels represents a focal point in this retailer's strategy. However, last year the sales of this products faced a decrease of 3,8%. Nonetheless, the private label goods still represent 35% of the overall portfolio carried by the company.

#### **5.5. Brand Loyalty and Price Discrimination**

Currently, the company has 1,2 million people registered in the Loyalty Program. Regarding price discrimination, this is not a practice made by the company. However, the company makes some adjustments in the promotional campaigns to fit the regional characteristics.

#### **5.6 Discussion**

After analyzing both the background and the data provided, we found that Pingo Doce's pricing strategy is supported by academic literature. Indeed, there are four distinct characteristics of a PROMO strategy – strategy which the company is currently applying – that can be easily spotted in the Pingo Doce's case.

The first characteristic is the investment in advertisement. Since Pingo Doce changed from EDLP to PROMO strategy, the company began to produce a weekly paper to inform the consumers about their promotions. Furthermore, there was been a big investment in radio advertisement. These investment in communication go along with the finds from Lal's and Matutes' (1991) study that prove that PROMO requires higher investment in communication.

The second characteristic is the increase in the amount of products near the checkout points. Hess and Gerstner (1987) argue that the success of PROMO is directly related with the purchase

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<sup>10</sup> Like-for-like consists of comparing the sales between two years taking in consideration only those activities that were in effect in both time periods. This comparison method attempts to eliminate any event that artificially enlarges a company's sales.

of impulse goods. In this sense, by increasing the amount of goods near the checkout point, Pingo Doce is encouraging the purchase of impulse goods.

The third characteristic is related with the type of consumers. According to Ellickson & Mirsa (2008) and Bell & Lattin (1998), PROMO clientele is normally frequent-shoppers with small-families that live in metropolitan cities. By looking at the Pingo Doce's data, 74% of their clientele visit the store at least once a week, 63% have 2 to 3 members in the household (small family) and the majority of their stores are located in urban areas. Pingo Doce is clearly satisfying the PROMO type of clientele.

The last factor is not directly associated with PROMO strategy but with the transformation from EDLP to PROMO. As EDLP requires a higher assortment level than PROMO (Ellickson & Mirsa, 2008), in the last years Pingo Doce has been decreasing the amount of products in their portfolio. In fact, in 2013 the company reduced in 20% their assortment. Another sign of this transformation, is the reduction in sales of the private label products (private labels are more an important factor for EDLP, losing importance in a PROMO strategy).

As mentioned before, the flagship of the repositioning strategy of Pingo Doce was the 50% off campaign. This campaign raised several conflicting issues. However, the main issue was if the company was selling products below costs with the final purpose of damaging the competition – predatory pricing.

In the case of Pingo Doce, a predatory pricing strategy could be applied for two reasons: either to drive rivals out of business or to discipline the competitors. If this was, in fact, predatory pricing several factors would have had to be fulfilled: (i) Pingo Doce had to be a dominant player in the market in order to influence prices; (ii) the majority of the products had to be sold below cost; (iii) some competitors had to be forced to abandon the market; and (iv) Pingo Doce had to be able, in a future scenario, to increase prices (in order to pay the losses of selling below cost) (Barros, 2012).

Although we can confirm the first factor, none of the other three happened. Indeed, Pingo Doce was accused of only selling one product below costs (although initially it was accused of

selling 15 products below cost). Furthermore, this incident was a one day event and, since that day, no major increments in prices have been made in the Pingo Doce's stores.

In fact, neither the competitors nor the consumers were permanently damaged by this promotion. The consumers enjoyed a huge temporary decrease in prices without no future increments in prices being, therefore, better-off with this campaign. The other players in the market might have faced a small decrease in their sales, however this decrease was not significant enough to jeopardize the retailers' survival.

Pingo Doce refers to this promotion as the turning point in their pricing strategy, from EDLP to PROMO. The 50% off campaign was, indeed, a unique strategy to communicate this transformation to the market.

## **6. Conclusions**

This work project has conducted a literature review on the pricing strategies currently used by the supermarket industry as well as a graphical analysis of the effects of these strategies on a supermarket's profit and on the consumer surplus. In addition, this work project has also investigated which pricing strategies are most often used in the supermarket industry in Portugal by focusing on the pricing strategies of the market leader- Pingo Doce. The information and data necessary to put together our case study of Pingo Doce came from several sources including the company annual economic reports and interviews with the Head of Global Learning of Jerónimo Martins Group.

Our study concludes that Everyday Low Prices, Promotional, Loyalty Programs and Zone Pricing are the most common pricing strategies in the supermarket industry. However each strategy has its own characteristics and determinates. That is, depending on the set of characteristics of the market, a firm will be better off applying a specific combination of strategies. In this sense, our study concludes that PROMO is able to accomplish better results than EDLP, Zone Pricing accomplish different results depending on the categories in which it is applied and Loyalty Programs are unable to cause any long-term changes in the demand.

By looking at the Pingo Doce case-study, we conclude that the Portuguese supermarket leader uses a combination of PROMO and Loyalty Program to accomplish the company's desired goal – increase the firm as a whole. Actually, Pingo Doce was able to grow, in like-for-like, 3.6% in this past year.

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